

## ANZMAG NEWS - November 2016

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Dear all,

Welcome to the November ANZMAG e-newsletter. I am sorry for the delayed newsletter this month. I am afraid I got buried in exam marking. I will be back on deck for December though.

### ARC GRANT OUTCOMES

This is perhaps not 'news' any more but the ARC outcomes came out a few weeks ago. The NHMRC ones came out too but I think these are still technically under embargo. You can see all the ARC outcomes at <http://bit.ly/2fANm9P> just select a scheme round from the box at the top of the screen. There were quite a lot of magnetic resonance grants I won't list them all here due to space restrictions but you can use the link above to find them. On behalf of ANZMAG congratulations to all those who were successful and commiserations to those that lost out.

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### TAKING AN NMR APART

Warlock engineering took an old 300 MHz Cryomagnet for NMR Spectroscopy apart and the insulation necessary to house the superconducting magnet at 4 K was then progressively removed. The liquid nitrogen and liquid helium vessels were removed separately. The magnetic core was then dismantled. You can see how this was all done and download a pdf of the process for teaching and education purposes at <https://www.warlock.com.au/NMRdeconstruction300MHz.htm> if you are keen. It's really interesting way to see inside an NMR and it's free and may be handy for lectures.

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### NMR BOOKS

There are a few news books out this month. First up is "Nuclear Magnetic Resonance: Volume 45 edited by Vasudevan Ramesh (<http://rsc.li/2fiKGPs>) which is a nice review of the use of NMR in different fields.

There is also NMR of Paramagnetic Molecules, Vol 2, Applications to Metallo-biomolecules and Models edited by Ivano Bertini, Claudio Luchinat, Giacomo Parigi and Enrico Ravera (flyer at <http://bit.ly/2g1oMzx>). If you know of more please send them in.

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### BIPHYSICS SEMINARS IN MELBOURNE AND AUCKLAND

- **08/12/16** "Caveolae connects mechanical deformation to G protein-mediated calcium signals" Prof Suzanne Scarlata, see <http://bit.ly/2fiCYVF> for the full details.
- **09/12/16** "Experimentally validated molecular dynamics simulations reveal how peptides partition into membranes and assemble into functional pores". Dr Martin Ulmschneider, <http://bit.ly/2g1nQep> for more.
- **12/12/16** "NMR at the Leading Edge - Getting More from Less" Prof. Craig Butts, see <http://bit.ly/2gr1eES>
- **Online** "Thinking Outside the (Benchtop) Box High-Field NMR Techniques on Benchtop Instruments" Magritek et al, see <http://bit.ly/2e9i8lQ> to stream this very interesting one.

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## MORE FREE MAGNETS

Dr Roger Mulder at the CSIRO ([roger.mulder@csiro.au](mailto:roger.mulder@csiro.au)) asked me to let you know that they have some decommissioned Varian consoles available as spare parts. These include a Varian Inova 500 console and 5mm probe (Contact Dr Nichols and 2) a Varian VNMRS 300 console, 10 mm solution probe and DOTY MAS probes (contact Peter Nichols, [peter.nichols@monash.edu](mailto:peter.nichols@monash.edu)).

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## TEACHING CHEMISTRY WITH A GAME

Not quite NMR but it is chemistry related. Dr Michelle Spencer and I recently developed a new teaching app with, and for, students at RMIT. It is a game based app called 'Chirality' and is available for download (for free) on iTunes (<https://itunes.apple.com/au/app/chirality/id1168523802?mt=8>). Developing the app was a project offered to teams of RMIT software engineering students as part of their work integrated learning project in the YourSoftware course. The reason I mention this is that similar gaming apps could be made for various forms of magnetic resonance. If you know of any please let me know. We plan to use the app in teaching our 1st year chemistry students next year.

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## NEW ZEALAND STORIES

A reminder and request to those members in New Zealand to please consider sending in any magnetic resonance related success stories for inclusion in the ANZMAG newsletter. I do my best to make said newsletter inclusive but as I'm based in Melbourne I know I may miss things on occasion. I can't promise everything will get included but I'll do my best. So if you have any news that you'd like to see on these pages please just send it to me at [oliver.jones@rmit.edu.au](mailto:oliver.jones@rmit.edu.au). Thank you.

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## STORIES FROM THE WEB

We finish, with our usual stories featuring different forms of magnetic resonance from the web

- <http://phys.org/news/2016-11-heme-copper-oxidases-copper-iron.html>

A team from the University of Illinois is has used EPR to look at why heme-copper oxidases prefer copper over iron. If you want to know why, you may have to read the link.

- <http://phys.org/news/2016-11-magnetic-resonance-imaging-salt-content.html>

A non-medical use for MRI, surely you jest Dr Jones? No, it's true, they can use it to look at salt in meat.

- <http://www.ubyssey.ca/science/new-food-contamination-method/>

This is an interesting story of how a PhD student invented a new method for detecting contaminated food.

One last story that was sent in by Prof Frances Separovic is the sad news that that John D. "Jack" Roberts, a pioneer in physical organic chemistry and NMR spectroscopy, died on Oct. 29 (<http://bit.ly/2gqXXW7>).

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Until next time, have a great month, please don't forget to send news items into me if you would like to see them in ANZMAG news.